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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,937	07/24/2001	Amit S. Phadnis	CSCO-005/2899	4820
26392	7590	03/24/2005	EXAMINER	
NARENDRA R. THAPPETA LANDON & STARK ASSOCIATES, ONE CRYSTAL PARK SUITE 210, 2011 CRYSTAL DRIVE ARLINGTON, VA 22202			FLEMING, FRITZ M	
			ART UNIT	PAPER NUMBER
			2182	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/910,937

Applicant(s)

PHADNIS ET AL.

Examiner

Fritz M Fleming

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.


Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


FRITZ FLEMING
PRIMARY EXAMINER
GROUP 2100

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/24/2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 1-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobson in view of Hariu and Hirano et al. (Hirano).

Referring to claim 1, Dobson teaches a gateway 100 and a NAT module 212 that runs the NAT services, wherein the devices on the DMT LAN 20 appear as a single IP address and uses private addressing, thus allowing the devices to communicate with external networks 90, including the Internet. DMT LAN20 uses private addressing, and a PPP session can be initiated via the PPP module 224 via multi-point forwarder 60, that enables the necessary routing functionality between local devices 70 and the external WAN environment 90. Note also a firewall 218. When a local device 70, known locally by its private address, desires to communicate with a device on network 90, the request is sent to gateway 100, wherein the forwarder 60 translates the private address to a common IP address assigned to the gateway 100. See Figure 2 and columns 5 and 6. Note also that the gateway 100 has a public address for communicating with the public network 90. See column 7, lines 24-34. What is missing is the use of a plurality of NAT tables in the gateway.

Turning to Hariu, one finds the use of, in Figure 7, a network interconnection controller 41 which performs NAT#1,2 at 41C1,2 and the address translation table 41AT. The discussion of Figure 7, [0057]+, assumes IF-A uses private addresses and IF-B uses global addresses, so that the addresses can be properly translated, resulting in the ability to translate the packet from 41 per the NAT#1 or #2 translation function. Per [0073], the address translation table 41AT is provided as a single chart of address translations for all the address translation

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function parts NAT#1,2, but may be separately provided for each address translation function part. Thus there is an explicit teaching to separate the chart (the same as a NAT table) into separate charts, and hence tables, based upon the individual NAT functions. Note also that a packet is initially received at the various IF inside the network 10, from user networks 11-14 (i.e. different domains as [0036] clearly stipulates that the user networks 11,12 are logically separated from user networks 13,14 and the received packet at a particular interface is to be transferred to the appropriate control function part), representing a source address and destination address at the various users, comprising public as well as private addresses, with the substitution of the new translated address for the original destination address, so that the packet is then sent to its final destination via the appropriate interface.

Hirano shows, Figure 5, a NAT router that has a separate NAT PP and LAN NAT, so that a computer, for example on network 1 can communicate with a computer attached to the ISDN, with the NAT function per Figure 6, with translation between global and private addresses per Figure 8. Note also that a computer on network 1 can communicate with one on network 2, with NAT occurring at LAN2a, which requires the translations described at columns 6 and 7.

Therefore it would have been obvious to one having ordinary skill in the art at the time that the invention was made to modify the teachings of Dobson per those of Hariu and Hirano for the express purpose of having an address translation table either in a single table, or in separate tables, as Hariu teaches

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that it is desirable to provide separate tables for separate NAT address translation functions and Hirano shows that separate NATs in a single device are used to translate the global and private addresses, as is claimed, as a translation requires a received packet with an original address that is then translated by the appropriate NAT table, and then sent with a new address as a result of the translation.

Regarding claim 2, it is to be noted that the combined teachings represent a service selection gateway, as there are a plurality of logically separated networks, which represent service domains, to which the remote systems are to be connected, as a function of the appropriate NATs. For example, the Hariu reference teaches the private and global addresses associated with networks and users, as does Dobson and Hirano. Thus the combined teachings have separated NAT tables based upon the individual address translation functions. Thus the NAT tables store information in tables partitioned according to the individual NAT functions that map the private to global addresses in a single service domain/network. Per Claim 3, the individual NAT functions apply to only a translation of a single domain. Per claim 4, the mapping information does not overlap in the Hariu case of connections of A-b and C-D via the NAT#1,2 and the user networks are logically separated. Per claim 5, the original addresses can be local and the mapped address be external per Dobson 20 and 90, which is described as being an external WAN, as well as the translations of Hirano. Per claim 5, Hariu address translation function selection 433a determines which of the NAT#1,2 the packet is sent to, in order to carry out the correct translation.

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Per claim 7, Dobson describes the set up of a PPP session at any local device 70 for PPP sessions handled via the NAT 212, see column 6, lines 1-14. Thus local addresses are assigned as the devices 70 are on the local network with the private addresses, as opposed to the external addresses on the WAN/Internet 90. The combined references teach the storing of services available (i.e. translation) with proper translation based upon the source and destination addresses. Per claim 8, Hariu shows separate NAT blocks, as does Hirano et al. and the same applies to the forwarding tables in 41 of Hariu. As communications go both ways, the combined references teach the claim 10 source at the external network with a destination on the local network. Per claim 11, the global forwarding is seen as 434 of Hariu, which occurs after the NAT at 41. The combined references all have IP.

Turning to claim 13, the means corresponding to the method analysis of claim 1 have been pointed out by reference numeral in the individual references, and is thus rendered obvious for the same reasons. Similarly, the means corresponding to claims 14-19 parallel the analysis of the method steps 2-9.

Regarding the computer readable medium of claims 20-31, such are likewise rendered obvious per the analysis of parallel method claims 1-12, noting that the combined references are all computer based and thus require a computer readable medium in order to function properly.

Regarding the gateway device supporting NAT per claims 32-44, the combined references show a gateway device per the analysis of the method claims 1-12, noting that the apparatus limitations have been set forth in the

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method step analysis. Hence the claims are rendered obvious for the same reasons. Note that the Hariu and Hirano references show that the NAT tables are in the form of a memory, with the individual NAT tables formed of separate units, per Hariu suggesting the separation of the tables. Note that service selection is carried out per Hariu Figure 7, elements 43 and 41.

Conclusion


5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. D'Souza shows multiple full routing table imports. RFC 1213 table of contents, 3.6 and 6.5 teach a choice of two tables for ease of implementation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fritz M Fleming whose telephone number is 571-272-4145. The examiner can normally be reached on M-F, 0600-1500.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Fritz M. Fleming
Primary Examiner
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fmf